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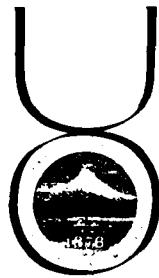
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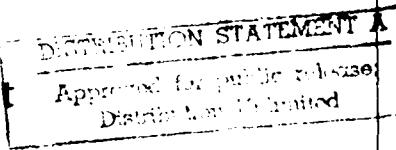
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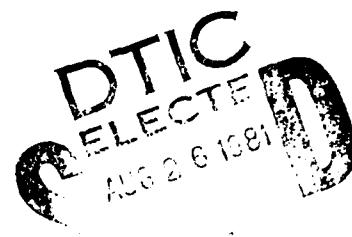


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**Employee Turnover and Absenteeism:
A Future Research Agenda**

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This paper attempts to outline research directions for future efforts aimed at better understanding absenteeism and turnover. In addition, several obstacles that seem to stand in the way of further progress on the topic are discussed.		

Employee Turnover and Absenteeism: A Future Research Agenda

**Richard M. Steers
University of Oregon**

Most of you are probably familiar with Murphy's Law. Murphy's Law states that "if anything possibly can go wrong, it will." You may be less familiar with a recent corollary to Murphy's Law that states simply that "Murphy was probably an optimist." In many ways, Murphy's Law and its corollary describe the plight of much of the current research on employee turnover and absenteeism. While there is clearly no lack of empirical work in the area, we still have only a rudimentary understanding of why people quit or go absent. Hence, despite the library of datapoints that exist on the topic, I should like to advance the argument that much more remains to be done. I hope in doing so that I can spark some interest on your part in contributing in a meaningful way to this important topic.

I would like to proceed in this paper to first address future research needs in the area of employee absenteeism, followed by a discussion of similar needs in the area of turnover. Then, based on this discussion, I will attempt to offer several of my own observations concerning why more progress on the topic has not been made, despite considerable effort.

Future Directions for Absenteeism Research

Before we consider future research directions, it may be helpful to consider briefly just how serious a problem absenteeism has become for organizations. One way to answer this question is to look at nationwide absenteeism statistics (Yolles et al., 1975). In many industries, daily absence rates approach 15-20% per day! If we take one commonly accepted estimate of the average daily cost per employee per absence of \$66 including both wages,

fringe benefits, etc. (Mirvis and Lawler, 1977), the estimated annual cost of absenteeism in the U. S. is about \$26.4 billion. Even if we take a more conservative approach and use the minimum wage rate, the estimated annual cost of absenteeism in the U. S. is at least \$8.5 billion.

The situation in other countries is no less severe. In Canada, for example, estimates of the annual cost of absenteeism range from \$2.7 billion to \$7.7 billion (Gandz and Mikalachki, 1980). Moreover, in Western Europe, overall absenteeism rates range from 14% in Italy, to a low of 1% in Switzerland (Yankelovich, 1979). In Italy, absenteeism has become so institutionalized that many organizations cannot cope on those rare days — usually twice a month on pay days — when everyone shows up. This problem is serious enough to merit its own name, presentismo, and results because many Italian manufacturers must hire from 8-14% more workers than they need just to get the work out (after controlling for absenteeism). When most everyone attends to collect his or her paychecks, there is not sufficient work to go around.

France rates second in Western Europe (after Italy) in absenteeism. One study found that one-half of French workers never miss a single day of work. However, of the remaining half, over 80% take at least 40 so-called "sick days" per year. Even Germany, with a reputation for a disciplined work-force, exhibits a 9% absenteeism rate. Clearly, then, absenteeism represents a significant problem of international concern.

In considering the costs associated with absenteeism, it is important to note that absenteeism does not invariably lead to reduced operating efficiency. Staw and Oldham (1978), for example, point out that some absenteeism may actually facilitate performance instead of inhibiting it. That is, absenteeism can relieve dissatisfied workers of job-related stress,

and in some cases may allow them to be more productive when they return to work. Furthermore, Moch and Fitzgibbons (1979) have identified at least three conditions or situations that might mitigate or even eliminate the effects of absenteeism on operating efficiency. These situations are: 1) Jobs that have been "people proofed" by automating production and reducing the role of employees to machine monitors. 2) Work environments that anticipate and adjust for expected absenteeism. For instance, many companies use "floater pools" where people are employed primarily to replace absent employees throughout a plant. 3) Instances where employees have little direct effect on plant level efficiency. Based on a study among blue-collar workers, Moch and Fitzgibbons found that absenteeism influences plant efficiency primarily in situations where: 1) production processes are not highly automated; and 2) the absences cannot be anticipated in advance.

Let me turn now to the issue of how we study absenteeism, assuming that we wish to. There are at least three approaches to the study of employee absenteeism in organizations. To begin with, many managers approach the subject by using various rules of thumb derived from their years of experience or personal assessments concerning the major causes of absenteeism. For example, we sometimes hear that "when it is harder to stay off the job than it is to come to work, employees will have regular attendance." I recently met one manager who boasted that he had no absenteeism problem but did have a high turnover rate: "If an employee is absent, he gets fired." Such rules of thumb, while interesting, typically fail to get at the heart of the problem. More seriously, such an approach tells us little concerning the more scientific aspects of the problem.

A second approach to understanding absenteeism involves considering

various isolated facts that are made known about it. In a recent book on the subject (Yolles, Karone, and Krinsky, 1975), several such isolated facts were presented: 1) Absenteeism is far more severe in major cities than in smaller towns and rural areas. 2) Absenteeism among females tends to decline during their career, while absenteeism among males tends to increase. 3) Cigarette smokers experience 45% more days lost due to illness and injury than nonsmokers. 4) In Belgium, which has very little absenteeism, the law requires that there be a bar in every factory where wine, beer, brandy, and vermouth are served. Here again, the researcher or manager is faced with a problem of integrating these various pieces of information and determining the relative importance of each. Unfortunately, this approach clearly represents the most commonly used approach to studying the problem. Consider, for example, how many bivariate correlations you have seen recently between various predictor variables and absenteeism.

A more useful approach than either of the first two, in my opinion, is to view absence behavior systematically and to attempt to gain a portrait of the various major influences on such behavior and how they are interrelated. Toward this end, at least one model by Steers and Rhodes (1978) has been presented. In this model, based on our reading of the literature, we posited that actual attendance is influenced largely by one's attendance motivation plus one's ability to attend. Attendance motivation, in turn, was thought to be largely influenced by a combination of job attitudes and various external and internal pressures to attend.

While I would hope that the model as proposed is helpful in better understanding absence behavior, it must be emphasized that it was derived by piecing together a variety of bivariate and rather disjunctive research findings into a conceptual model based largely on induction. Hence, in many

ways, the model we have proposed may be considered as a series of hypotheses suitable for subsequent testing. If we are to make further progress toward explicating absence behavior in organizations, much more remains to be accomplished. Several such lines of research activity can be identified for a research agenda on absenteeism.

Agenda item #1. Very few comprehensive multivariate studies of absenteeism are to be found, although this trend may be changing (see, for example, Hammer et al., 1980a; Spencer and Steers, 1980). Moreover, very few studies exist that attempt to explore causal sequences among variables. An earlier review by Porter and Steers (1973) called for more comprehensive process models of withdrawal behavior, instead of the continued proliferation of bivariate correlational analyses. Clearly, few people responded to our call.

Examples of such an approach are many. For instance, efforts should be made to examine the nature of the relationship between satisfaction and various pressures to attend as they jointly influence attendance motivation. Do such variables influence attendance motivation in an additive or multiplicative fashion? Research is also needed concerning the interaction of attendance motivation and ability to attend as they determine actual attendance. How important are the various constraints on one's ability to come to work in moderating the relationship between attendance motivation and actual attendance? Finally, and perhaps most important, comprehensive research designs are needed to estimate the relative importance of the many variables identified in absence models as each influences attendance. For example, is an organization's incentive/reward system more influential than prevailing economic conditions or than satisfaction? How much variance exists across individuals concerning the relative importance of these variables? Until we have answers to questions such as these, we must acknowledge

a rather limited understanding of attendance processes in organizations.

Agenda item #2. Are there other variables that influence absenteeism but have yet to be studied systematically? One possible example here is the problem of multiple commitments and possible conflicts among such commitments (Hall, 1977). That is, what effect does a strong commitment to one's family or to a hobby (instead of to the organization) have on attendance motivation? Similarly, what effect does psychosomatic illness, possibly brought on by role pressures, have on actual attendance? Additional work is also in order concerning the sustained impact of behavior modification on employee attendance. The influence of habitual behavior as it relates to attendance should also be examined. Finally, considerably more could be learned about the manner in which extraorganizational factors (e.g., family responsibilities, pressures, and norms; friendship groups, etc.) influence the attendance decision (see Smulders, 1980).

Agenda item #3. In addition, some effort must be focused on the operationalization and conceptualization of absenteeism measures. For example, there is some disagreement concerning the relative preference for measures of absenteeism or measures of attendance. Latham and Pursell (1975, 1977) argue that measuring employee attendance (instead of absenteeism) leads to more stable measures over time and that the concept of attendance behavior is more appealing theoretically. Both of these assertions have been questioned by Ilgen (1977), however.

Moreover, as noted by Nicholson and Goode (1976), various measures of absenteeism (total days lost, number of instances of absences, medically sanctioned absences, etc.) do not covary. Available data suggest that a frequency measure is preferable to time lost measures or other indicators (Hammer, Landau, and Stern, 1980b). In any case, serious

problems of interpretation emerge in attempts to compare results across various absenteeism studies. This problem is compounded by the reluctance of some investigators to specify clearly how absenteeism was operationalized or measured in their own studies. Certainly additional effort is needed to ensure that future research employs comparable (or at least multiple) measures of absenteeism so that greater integration of the various findings is possible.

It would also be highly desirable if future studies reported the absence control policies and sanctions that exist in the organization under study (e.g., sick leave policy, medical certification of absences). Such controls may have an important influence on study results that is often overlooked.

Agenda item #4. There is a prevailing assumption throughout much of the literature on absenteeism that all absenteeism is detrimental to organizational well-being. It is possible, however, that some absenteeism may in fact be healthy for organizations in that such behavior can allow for temporary escape from stressful situations (perhaps through the provision of personal days off), thereby potentially contributing to the mental health of employees (see, for example, Ivancevich and Matteson, 1980). In fact, rigid efforts to ensure perfect attendance (such as through behavior modification) may lead to unintended and detrimental consequences on the job, such as reduced product quality, increased accidents, and so forth. Hence, it would be helpful if future studies could examine the extent to which changes in absence rates do or do not have adverse consequences for other aspects of organizational effectiveness. If reduced absenteeism is accomplished at the expense of product quality, accident rate, strike activity, or employee mental health, serious cost-benefit questions must be

raised concerning the desirability of initiating efforts aimed at reducing such behavior.

Agenda item #5. In contrast to other areas of intellectual concern, it is not necessary here to argue for additional experimental (as opposed to correlational) studies. In point of fact, there have been a number of experimental studies of absenteeism, particularly as it relates to job redesign. However, many of these studies used multiple interventions simultaneously (Glaser, 1976), thus contaminating treatment effects. Moreover, the majority of experimental studies failed to use matched control groups, and many failed to report the nature of the absence measures employed. Future experimental studies must therefore provide for a more rigorous test of the hypotheses by employing more stringent (and controlled) experimental designs, while clearly identifying and isolating the treatments. Confounding of variables remains a needless hallmark of studies of employee absenteeism.

Moreover, in view of the inconsistency (and possible instability) of most measures of absenteeism, it would be highly desirable to cross-validate results. Recent evidence by Garrison and Muchinsky (1977) and Waters and Roach (1973) amply demonstrates the possible misinterpretation of results that can easily occur in the absence of cross-validation or replication of results.

Agenda item #6. Finally, a characteristic attribute of absenteeism studies is their focus on blue-collar and clerical employees. Managerial personnel either have largely been ignored either because of a lack of data or because the absenteeism data that are available suggest that little problem exists with managers. However, in view of the increased autonomy that managers have, which makes short absences from work relatively easy, it may

be useful to reexamine de facto absenteeism among such employees. This reexamination really suggests the need to consider the productivity of such employees. When an assembly-line worker is absent (or is present but not actually working), it is quite noticeable. However, when a manager is "in conference" or "working privately," questions must be raised concerning the extent to which he or she is really present on the job, psychologically as well as physically. Lenz (cited in Yolles et al., 1975) argues that one of the prerogatives of managers is the right to be absent. "It is the right to sit around the office and talk, the right to take a slightly longer lunch 'hour' than anyone else, the right to run personal errands during the day while blue-collar workers must wait until Saturday (p. 17)." In short, it would be helpful to learn more about the active participation levels of managers (and other employees), perhaps employing somewhat different measures of absenteeism. Such efforts may eventually lead to a call for a redefinition of absenteeism to reflect productivity on the job rather than mere presence.

In short, I believe a sound argument is advanced that the area of employee absenteeism represents a rich field for research endeavor. However, if progress is to be made, the quality of such endeavors becomes of paramount concern. We don't need more studies of absenteeism; we need better ones -- more systematic, more comprehensive, and more rigorous in design.

Future Directions for Turnover Research

Let us turn now to a consideration of the topic of employee turnover. As with absenteeism, employee turnover creates considerable havoc both for individuals and organizations. While the specific consequences of turnover may differ from those of absenteeism, its impact on organizational systems

is no less severe.

As William H. Whyte (cited in Fortune, 1981) questions, "Whatever happened to corporate loyalty?" In the 1950s, corporations were often called the "citadel of belongingness" and the litany of the time went "be loyal to the company, and the company will be loyal to you." Things have clearly changed. As noted in Fortune magazine recently (1981, p. 54):

Although the symptoms of eroding loyalty are widely recognized, the severity of the disease is startling. Turnover among managers out of college less than five years has quadrupled since 1960. Today, the average corporation can count on losing 50% of its college recruits within five years.

Despite the rather large number of empirical studies that have been carried out with respect to employee turnover, our understanding of how employees decide whether to stay with or leave the organization is still fragmentary. It is apparent that the problem is not that the subject area has suffered from a lack of research attention. Rather, the problem can apparently be traced to the rather narrow range of issues associated with turnover that organizational researchers have chosen to examine and to the methodologies they have employed in such investigations.

In this regard, several important areas can be identified that together form a useful future research agenda on the topic. These areas include the following:

Agenda item #1. To begin with, much greater attention needs to be directed toward testing comprehensive models of the turnover process. Even though some research has begun to move in this direction, a need still exists to move beyond simple studies focusing on a limited number of variables or a limited perspective with respect to the turnover decision process.

Agenda item #2. A need still remains for research on the role of employee performance level in the turnover decision. For example, do high

performers leave for different reasons than poor performers? Initial exploratory analyses suggest that this may be the case (Spencer and Steers, 1980). What effect does poor performance have on subsequent job attitudes and on employee's desire to remain? Moreover, do high performers raise their level of expectations thereby increasing the difficulty to the organization in satisfying such expectations?

Agenda item #3. It was noted some time ago by March and Simon (1958) that dissatisfied employees can be expected to try to change the work situation and reduce or eliminate the less desirable aspects of it. Little has been done to date to verify this hypothesis, however. If employees do undertake such change efforts, what are some of the more common methods used in this regard? Under what conditions are such efforts likely to be more successful? Finally, when such efforts are unsuccessful, what is the effect (if any) on job attitudes?

Agenda item #4. The field is just beginning to recognize the existence of a series of non-work factors that influence turnover decisions. Most of these influences appear to be related to matters of personal goals and values and to family considerations. Few studies have examined these factors systematically, however (Sussman and Cogswell, 1971). Hence, the influence of non-work factors on employee turnover remains perhaps one of the richest areas for future work.

Agenda item #5. Several of the existing models of employee turnover incorporate some notion of search behavior for more preferable job alternatives. This notion often accompanies economic considerations or actual alternative job opportunities. However, a systematic examination of how people initiate search behavior is still lacking. Also lacking is an understanding about the quality of information collected in search behavior and

how such information is processed in arriving at a decision. This topic is particularly well suited to laboratory study, a method of research not typically employed in turnover research.

Agenda item #6. Finally, some research on turnover suggests that some forms of withdrawal may at times act as a substitute for other forms (Muchinsky and Tuttle, 1979). For instance, when an employee is unable to leave a dissatisfying job, he or she may use absenteeism as a temporary form of escape. Alcoholism, drug abuse, sabotage, and work slow downs also represent possible substitutes. Although psychiatrists have examined alcoholism and drug abuse and labor economists have studied sabotage and work slow downs, few systematic attempts have been made by organizational psychologists to study the substitutability of these various forms of withdrawal for turnover. Thus, when an employee is unable to leave an undesirable job, how likely is he or she to use alternative modes of accommodation that are dysfunctional either to the employee or the organization? Moreover, are certain types of employees more likely to use these accommodation techniques than others? Is there a generalizable sequence of accommodation techniques, perhaps beginning with increased absenteeism and then progressing to alcoholism and drug abuse, or do different individuals find different modes of accommodation without any particular pattern? Answers to questions such as these will go a long way toward helping us explicate turnover processes in organizations.

Obstacles to Overcome

Other suggestions for future research on employee turnover and absenteeism could be mentioned. The point I wish to make with the above list is that much more does remain to be done in the area. This subject area is a fertile ground for serious, scholarly work. However, such work needs to be prefaced

by serious reflection as to how a particular new study really advances the field. As I mentioned before, we don't need more, we need better.

Why aren't we getting better? Or, to put it another way, what obstacles exist that often serve to impede our progress in research on this and other topics? I would like to suggest four possible obstacles that I think you will recognize. At the risk of oversimplification, I believe these obstacles may be responsible for many of the problems of behavioral research today. I should emphasize that these comments refer to behavioral research in general, including but not limited to research on turnover and absenteeism.

1. What are our motives in doing research? (or, fiat veritas, not fiat publication). To begin with, I submit that many researchers are preoccupied with the number of publications they can achieve rather than the impact they can make. I think it is time to raise questions concerning our motives in doing behavioral research. Are we really attempting to solve work-related problems or simply gain another publication? If motives are indeed a guide to behavior, then we may expect quite different outcomes from these two motives.

2. Of the scholars, by the scholars, and for the scholars. This second problem is related to the first. Simply put, I am concerned that many of us spend entirely too much time writing to each other -- from one researcher to another. We are concerned that what we say has enough "presence" to suitably impress our "colleagues." If we are serious about solving work-related problems, wouldn't it be better if we actually talked to workers and managers once in awhile? Perhaps one of the reasons for the emerging popularity of ethnographic studies and qualitative methodology is a growing impatience with the practice of passing out rather sterile questionnaires.

running to the computer center, and then spending one's time wondering whether other academics will like what we did. Stud's Turkel never passed out a questionnaire, nor does he seem unduly concerned with impressing his peer group. Even so, his contribution to our understanding of people at work is clearly substantial.

3. Small picture analysis. In affairs of state, we often hear comments about the need to see the "big picture." Why don't we see more of this concern in behavioral research? As a reviewer on three editorial boards, I am continually asking "who cares?" when I review papers submitted for journal publication. It seems to me that far more attention ought to be paid to asking questions concerning the importance or impact of a particular study. John Campbell (1966) observed many years ago that "Psychologists seem to be afraid to ask really important questions. The whole Zeitgeist seems to encourage research efforts that earn big grants, crank out publications frequently and regularly, self-perpetuate themselves, don't entail much difficulty in getting subjects, don't require the researchers to move from behind their desks or out of their laboratories except to accept speaking engagements, and serve to protect the scientist from all the forces that can knock him out the secure 'visible circle.'"

What I am arguing for here is the need for researchers to think about the theoretical and practical implications of a proposed study before (rather than after) its execution. Bob Dubin distinguishes between "toilers in the vineyards" and "gods on the mountain." Presumably, the former spend their time cranking out "little papers," while the latter spend probably less time but spend it on more substantial issues. I would obviously like to encourage you to pursue the latter.

4. Statistical significance ploy (a.k.a., startrek). Simply put, I

would argue that too many researchers spend too much time combing through computer print-outs for those precious little asterisks that indicate statistical significance at the .05 level. Far less concern seems to be devoted to examining the practical significance of such findings. As David Campbell (1966) has observed, "We seem to believe that truth will be discovered somehow through using more and more esoteric techniques of data manipulation rather than by looking for it in the real world."

Related to this problem is the practice of drawing conclusions that go well beyond the data. An article in the most recent issue of the Journal of Applied Psychology, for example, compares the predictive powers of two attitudes with respect to a particular behavior and concludes that one attitude was "inferior" to the other (Hom & Hulin, 1981). The two correlations with the behavior were .52 and .53. Is this conclusion really justified? I think not.

It seems to me that such practices result in large part from an over-reliance on statistics and computer print-outs and an underreliance on grey matter. We simply don't spend much time thinking about the problem. This observation has led me to propose what might be called Steers' Law. This law, somewhat tongue-in-cheek, states that, when presenting a paper at a professional meeting, if you need a correlation matrix to make your point, your paper probably isn't very important. Of course, a corollary to Steers' Law states that if you don't need a correlation matrix, it doesn't necessarily mean that your paper is important either. My point here is simply that research should be guided by theory, by reasoning, and by open-mindedness.

In summary, if we are to make progress on research on turnover and absenteeism — or other behavioral problems — it seems to me that we need to

think more, to be more tolerant of the ideas of others, to be more reflective. In short, perhaps we need to view behavioral research more as a corporate enterprise — a team effort at problem-solving — rather than as a test of rugged individualism and ego fulfillment. As future researchers, I would like to leave you with the challenge of initiating quality research on this or other behavioral problems of significance. In this regard, I will close with a quote from the Talmud that in my judgment represents a useful motto for academicians involved in behavioral research. It says simply: "It is not your obligation to complete your work, but you are not at liberty to quit."

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78u452-883
24 June 1981

LIST 2
ONR FIELD

ONR Western Regional Office
1030 E. Green Street
Pasadena, CA 91106

Psychologist
ONR Western Regional Office
1030 E. Green Street
Pasadena, CA 91106

ONR Regional Office
536 S. Clark Street
Chicago, IL 60605

Psychologist
ONR Regional Office
536 S. Clark Street
Chicago, IL 60605

Psychologist
ONR Eastern/Central Regional Office
Bldg. 114, Section D
666 Summer Street
Boston, MA 02210

ONR Eastern/Central Regional Office
Bldg. 114, Section D
666 Summer Street
Boston, MA 02210

P4-5/A5
Sequential by OPNAV Code

452:KD:716:enj
78u452-883
25 June 1981

LIST 3
OPNAV

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Head, Research, Development, and
Studies Branch (Op-115)
1812 Arlington Annex
Washington, DC 20350

Director
Civilian Personnel Division (OP-14)
Department of the Navy
1803 Arlington Annex
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Plans and Policy Branch (Op-150)
Department of the Navy
Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Plans and Policy Branch (Op-150)
Department of the Navy
Washington, DC 20350

Chief of Naval Operations
Head, Manpower, Personnel, Training
and Reserves Team (Op-964D)
The Pentagon, 4A478
Washington, DC 20350

Chief of Naval Operations
Assistant, Personnel Logistics
Planning (Op-987H)
The Pentagon, 5D772
Washington, DC 20350

P4-5/A7

452:KD:716:enj
78u452-883
24 June 1981

LIST 4
NAVMAT & NPRDC

NAVMAT

Program Administrator for Manpower,
Personnel, and Training
MAT 0722
800 N. Quincy Street
Arlington, VA 22217

Naval Material Command
Management Training Center
NAVMAT 09M32
Jefferson Plaza, Bldg #2, Rm 150
1421 Jefferson Davis Highway
Arlington, VA 20360

Naval Material Command
NAVMAT-00K
Washington, DC 20360

Naval Material Command
NAVMAT-00KB
Washington, DC 20360

Naval Material Command
(MAT-03)
Crystal Plaza #5
Room 236
2211 Jefferson Davis Highway
Arlington, VA 20360

NPRDC

Commanding Officer (5 Copies)
Naval Personnel R&D Center
San Diego, CA 92152

Navy Personnel R&D Center
Washington Liaison Office
Building 200, 2N
Washington Navy Yard
Washington, DC 20374

P4-5/A9
Sequential by State/City

452:KD:716:enj
78u452-883
24 June 1981

LIST 5
BUMED

Commanding Officer
Naval Health Research Center
San Diego, CA 92152

CDR William S. Maynard
Psychology Department
Naval Regional Medical Center
San Diego, CA 92134

Naval Submarine Medical
Research Laboratory
Naval Submarine Base
New London, Box 900
Groton, CT 06349

Director, Medical Service Corps
Bureau of Medicine and Surgery
Code 23
Department of the Navy
Washington, DC 20372

Naval Aerospace Medical
Research Lab
Naval Air Station
Pensacola, FL 32508

Program Manager for Human
Performance
Naval Medical R&D Command
National Naval Medical Center
Bethesda, MD 20014

Navy Medical R&D Command
ATTN: Code 44
National Naval Medical Center
Bethesda, MD 20014

P4-5/A11

452:KD:716:lab
78u452-883
30 May 1981

LIST 6
NAVAL ACADEMY AND NAVAL POSTGRADUATE SCHOOL

Naval Postgraduate School
ATTN: Dr. Richard S. Elster
Department of Administrative Sciences
Monterey, CA 93940

Naval Postgraduate School
ATTN: Professor John Senger
Operations Research and
Administrative Science
Monterey, CA 93940

Superintendent
Naval Postgraduate School
Code 1424
Monterey, CA 93940

Naval Postgraduate School
ATTN: Dr. James Arima
Code 54-Aa
Monterey, CA 93940

Naval Postgraduate School
ATTN: Dr. Richard A. McGonigal
Code 54
Monterey, CA 93940

U.S. Naval Academy
ATTN: CDR J. M. McGrath
Department of Leadership and Law
Annapolis, MD 21402

Professor Carson K. Eoyang
Naval Postgraduate School, Code 54EG
Department of Administration Sciences
Monterey, CA 93940

Superintendent
ATTN: Director of Research
Naval Academy, U.S.
Annapolis, MD 21402

P4-5/A13
Sequential by State/City/FPO

452:KD:716:lab
78u452-883
30 May 1981

LIST 7
HRM

Officer in Charge
Human Resource Management Detachment
Naval Air Station
Alameda, CA 94591

Officer in Charge
Human Resource Management Detachment
Naval Submarine Base New London
P.O. Box 81
Groton, CT 06340

Officer in Charge
Human Resource Management Division
Naval Air Station
Mayport, FL 32228

Commanding Officer
Human Resource Management Center
Pearl Harbor, HI 96860

Commander in Chief
Human Resource Management Division
U.S. Pacific Fleet
Pearl Harbor, HI 96860

Officer in Charge
Human Resource Management Detachment
Naval Base
Charleston, SC 29408

Commanding Officer
Human Resource Management School
Naval Air Station Memphis
Millington, TN 38054

Human Resource Management School
Naval Air Station Memphis (96)
Millington, TN 38054

P4-5/A14

452:KD:716:enj
78u452-883
24 June 1981

List 7 (Continued)

Commanding Officer
Human Resource Management Center
1300 Wilson Boulevard
Arlington, VA 22209

Commanding Officer
Human Resource Management Center
5621-23 Tidewater Drive
Norfolk, VA 23511

Commander in Chief
Human Resource Management Division
U.S. Atlantic Fleet
Norfolk, VA 23511

Officer in Charge
Human Resource Management Detachment
Naval Air Station Whidbey Island
Oak Harbor, WA 98278

Commanding Officer
Human Resource Management Center
Box 23
FPO New York 09510

Commander in Chief
Human Resource Management Division
U.S. Naval Force Europe
FPO New York 09510

Officer in Charge
Human Resource Management Detachment
Box 60
FPO San Francisco 96651

Officer in Charge
Human Resource Management Detachment
COMNAVFORJAPAN
FPO Seattle 98762

P4-5/A16
Sequential by State/City

452:KD:716:lab
78u452-883
30 May 1981

LIST 8
NAVY MISCELLANEOUS

Naval Military Personnel Command (2 copies)
HRM Department (NMPC-6)
Washington, DC 20350

Naval Training Analysis
and Evaluation Group
Orlando, FL 32813

Commanding Officer
ATTN: TIC, Bldg. 2068
Naval Training Equipment Center
Orlando, FL 32813

Chief of Naval Education
and Training (N-5)
Director, Research Development,
Test and Evaluation
Naval Air Station
Pensacola, FL 32508

Chief of Naval Technical Training
ATTN: Dr. Norman Kerr, Code 017
NAS Memphis (75)
Millington, TN 38054

Navy Recruiting Command
Head, Research and Analysis Branch
Code 434, Room 8001
801 North Randolph Street
Arlington, VA 22203

Commanding Officer
USS Carl Vinson (CVN-70)
Newport News Shipbuilding &
Drydock Company
Newport News, VA 23607

P4-5/A18

452:KD:716:lab
78u452-883
30 May 1981

LIST 9
USMC

Headquarters, U.S. Marine Corps
Code MPI-20
Washington, DC 20380

Headquarters, U.S. Marine Corps
ATTN: Dr. A. L. Slafkosky,
Code RD-1
Washington, DC 20380

Education Advisor
Education Center (E031)
MCDEC
Quantico, VA 22134

Commanding Officer
Education Center (E031)
MCDEC
Quantico, VA 22134

Commanding Officer
U.S. Marine Corps
Command and Staff College
Quantico, VA 22134

P4-5/A20

Sequential by Principal Investigator

452:KD:716:enj

78u452-883

24 May 1981

LIST 10
DARPA

Defense Advanced Research Projects Agency
Director, Cybernetics
Technology Office
1400 Wilson Blvd, Rm 625
Arlington, VA 22209

(3 copies)

Mr. Michael A. Daniels
International Public Policy
Research Corporation
6845 Elm Street, Suite 212
McLean, VA 22101

Dr. A. F. K. Organski
Center for Political Studies
Institute for Social Research
University of Michigan
Ann Arbor, MI 48106

P4-5/A23
Sequential by Agency

452:KD:716:enj
78u452-883
24 June 1981

LIST 11
OTHER FEDERAL GOVERNMENT

Dr. Douglas Hunter
Defense Intelligence School
Washington, DC 20374

Dr. Brian Usilaner
GAO
Washington, DC 20548

National Institute of Education
ATTN: Dr. Fritz Mulhauser
EOLC/SMO
1200 19th Street, N.W.
Washington, DC 20208

National Institute of Mental Health
Division of Extramural Research Programs
5600 Fishers Lane
Rockville, MD 20852

National Institute of Mental Health
Minority Group Mental Health Programs
Room 7 - 102
5600 Fishers Lane
Rockville, MD 20852

Office of Personnel Management
Office of Planning and Evaluation
Research Management Division
1900 E Street, N.W.
Washington, DC 20415

Office of Personnel Management
ATTN: Ms. Carolyn Burstein
1900 E Street, NW.
Washington, DC 20415

Office of Personnel Management
ATTN: Mr. Jeff Kane
Personnel R&D Center
1900 E Street, N.W.
Washington, DC 20415

Chief, Psychological Research Branch
ATTN: Mr. Richard Lanterman
U.S. Coast Guard (G-P-1/2/TP42)
Washington, DC 20593

P4-5/A24
Sequential by Agency

452:KD:716:enj
78u452-883
24 June 1981

LIST 11 CONT'D

OTHER FEDERAL GOVERNMENT

Social and Developmental Psychology
Program
National Science Foundation
Washington, DC 20550

P4-5/A25
Sequential by State/City

452:KD:716:enj
78u452-883
24 June 1981

LIST 12
ARMY

Headquarters, FORSCOM
ATTN: AFPR-HR
Ft. McPherson, GA 30330

Army Research Institute
Field Unit - Leavenworth
P.O. Box 3122
Fort Leavenworth, KS 66027

Technical Director
Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

Director
Systems Research Laboratory
5001 Eisenhower Avenue
Alexandria, VA 22333

Director
Army Research Institute
Training Research Laboratory
5001 Eisenhower Avenue
Alexandria, VA 22333

Dr. T. O. Jacobs
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Army Research Institute
5001 Eisenhower Avenue
Alexandria, VA 22333

COL Howard Prince
Head, Department of Behavior
Science and Leadership
U.S. Military Academy, New York 10996

P4-5/A27
Sequential by State/City

452:KD:716:enj
78u452-883
24 June 1981

LIST 13
AIR FORCE

Air University Library/LSE 76-443
Maxwell AFB, AL 36112

COL John W. Williams, Jr.
Head, Department of Behavioral
Science and Leadership
U.S. Air Force Academy, CO 80840

MAJ Robert Gregory
USAFA/DFBL
U.S. Air Force Academy, CO 80840

AFOSR/NL (Dr. Fregly)
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Bolling AFB
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Department of the Air Force
AF/MPXHM
Pentagon
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Technical Director
AFHRL/MO(T)
Brooks AFB
San Antonio, TX 78235

AFMPC/MPCYPR
Randolph AFB, TX 78150

P4-5/A29
Sequential by State/City

452:KD:716:lab
78u452-883
30 May 1981

LIST 14
MISCELLANEOUS

Australian Embassy
Office of the Air Attaché (S3B)
1601 Massachusetts Avenue, N.W.
Washington, DC 20036

Commandant, Royal Military
College of Canada
ATTN: Department of Military
Leadership and Management
Kingston, Ontario K7L 2W3

British Embassy
Scientific Information Officer
Room 509
3100 Massachusetts Avenue, N.W.
Washington, DC 20008

National Defence Headquarters
ATTN: DPAR
Ottawa, Ontario K1A 0K2

Canadian Defense Liaison Staff,
Washington
ATTN: CDRD
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Washington, DC 20008

Mr. Luigi Petrullo
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P4-5/B2
Sequential by Principal Investigator

452:KD:716:enj
78u452-883
24 June 1981

LIST 15
CURRENT CONTRACTORS

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Orlando, FL 32813

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Behavioral Science
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P4-5/B3

LIST 15 (Continued)

452:KD:716:enj

78u452-883

24 June 1981

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Dr. Bibb Latane
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Columbus, OH 43210

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Administration
Los Angeles, CA 90007

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University of Maryland
College Park, MD 20742

Dr. Fred Luthans
Regents Professor of Management
University of Nebraska - Lincoln
Lincoln, NB 68588

P4-5/B4

LIST 15 (Continued)

452:KD:716:enj
78u452-883
24 June 1981

Dr. R. R. Mackie
Human Factors Research
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Goleta, CA 93017

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Texas A&M University
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Dr. Thomas M. Ostrom
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116E Stadium
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Graduate School of Management
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Dr. Irwin G. Sarason
University of Washington
Department of Psychology, NI-25
Seattle, WA 98195

Dr. Benjamin Schneider
Department of Psychology
Michigan State University
East Lansing, MI 48824

Dr. Saul B. Sells
Texas Christian University
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Massachusetts Institute of Technology
Sloan School of Management
Cambridge, MA 02139

P4-5/B5

452:KD:716:enj
78u452-883
24 June 1981

LIST 15 (Continued)

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Program Director, Manpower Research
and Advisory Services
Smithsonian Institution
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Dr. Richard M. Steers
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University of Oregon
Eugene, OR 97403

Dr. Gerald R. Stoffer
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LT, Medical Service Corp.
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NAVTRAEOUIPCEN
Orlando, FL 32813

Dr. Siegfried Streufert
The Pennsylvania State University
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Milton S. Hershey Medical Center
Hershey, PA 17033

Dr. James R. Terborg
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Eugene, OR 97403

Dr. Harry C. Triandis
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University of Illinois
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Dr. Howard M. Weiss
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Department of Psychological
Sciences
West Lafayette, IN 47907

Dr. Philip G. Zimbardo
Stanford University
Department of Psychology
Stanford, CA 94305

